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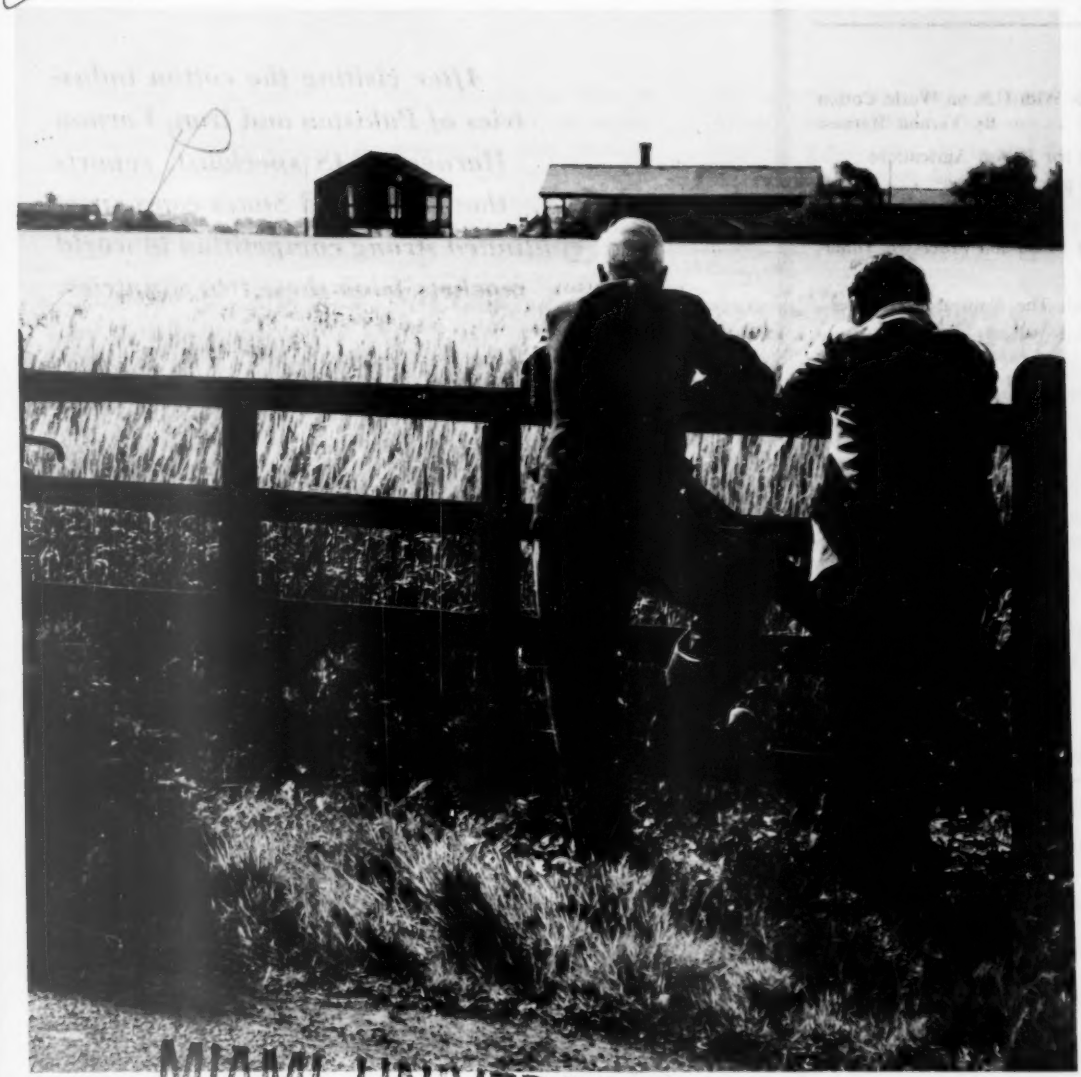
FOREIGN AGRICULTURE



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U.K. Conservative's Farm Plan

Biological Control: The Natural Pest Killer

February 17, 1969

Foreign Agricultural Service
U.S. DEPARTMENT OF AGRICULTURE

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The new farm plan affecting these British farmers —here looking over a field of barley—is discussed on pages 5 and 6.

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Pakistan, Iran Vie

After visiting the cotton industries of Pakistan and Iran, Vernon Harness, FAS specialist, reports that the United States can expect continued strong competition in world markets from these two countries.

Farmers and cotton industry people in both Pakistan and Iran believe that production in their countries is bound to increase, provided that world prices remain near the 1967-68 levels. Even should these prices undergo a moderate decline, the consensus is that production in the two countries would be upheld by substantial domestic needs and by sizable exports—large shares of which go to Communist countries. Thus, with their supplies remaining high, Pakistan and Iran are certain to be vigorous rivals for the United States in world import markets.

Between them, these countries already provide considerable competition for U.S. cotton throughout the range of qualities exported by the United States.

Pakistan looks toward export rise

Pakistan's cotton has gained a reputation for high-strength fibers in international markets, and its predominantly roller-ginned shipments are preferred by foreign buyers to whom a low count of neps (small fiber tangles) is particularly important. The larger part of its export cotton is one inch in staple length or shorter, thus competing most directly with U.S. cotton in the shorter staple range, such as some of the Lubbock territory qualities.

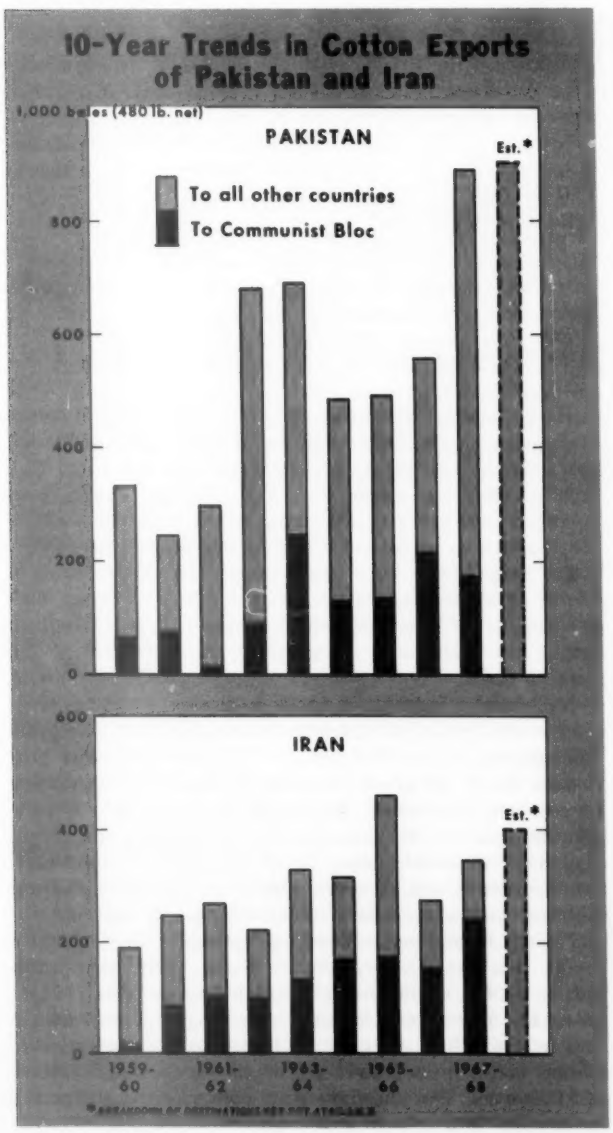
Exports of Pakistani cotton have ranged from about 500,000 bales to 900,000 bales annually in recent years. This season, they are expected to hit the upper part of the range, with a 100,000-bale rise from a year earlier. About one-third of Pakistan's shipments usually are destined for Communist countries; Hong Kong, Japan, and several West European countries take most of the remainder.

Pakistan's cotton production this season is now expected to total about 2.4 million bales, compared with 2.3 million a year earlier. Area rose slightly, to 4.3 million acres; but most of the increase in production must be attributed to higher yields in the southern region, which more than offset poor crop prospects in the north. The southern yields were higher because favorable weather promoted optimum growing conditions and minimized losses to disease and insects. Increased use of insecticides and fertilizer continued, although on a relatively limited area. Small plantings of higher yielding varieties made but little impression upon total output, for the overall yield, at 268 pounds per acre (all irrigated), remains among the lowest in the world.

With U.S. on World Cotton Markets

Pakistani cotton leaders have little inclination to promote increased cotton area; their major emphasis is on higher yields. However, no dramatic breakthrough in yield improvement seems to be in sight. Most varieties now in widespread use in Pakistan are not inherently capable of producing yields much higher than a bale per acre, even under the best conditions. This level is far below the potential of many of the world's leading varieties.

Improved cultural techniques could bring a considerable increase in yield over present levels. Producers receive subsidies which help offset the cost of seed, fertilizer, pest control, farm machinery, and—in some cases—irrigation water. But—although some farmers have been striking exceptions, moving ahead rapidly in their use of advanced cultural practices—it is only very slowly and in recent years that yield-expanding techniques have been gaining acceptance among cotton farmers in general. A further problem is severe salinity, which persists in parts of the cotton region, although reclamation efforts are underway.



Statistical analysis of cotton trends in Pakistan shows that over the past 15 years area has increased at an annual rate of 50,000 acres, yields at nearly 6 pounds per year, and production at an average 66,000 bales per year. A continuation of these trends—especially in yields and production—would appear likely.

One of the factors to be weighed in forecasting future cotton production trends is cost of production. The limited information available suggests that direct costs of cotton production in many Pakistani areas are quite low compared with U.S. levels. However, profit per acre is held down by low average yields.

Summarized in the following table are rough approximations for direct costs of producing cotton in 1968-69 on "superior" farms (large and efficiently operated) and on "average" farms (generally no more than a few acres in size and relatively inefficient operations).

Item	Superior farms	Average farms
Lint per acre .....pounds..	587	268
Price received per pound .....cents..	22.7	22
Income per acre .....dollars..	133	59
Direct cost per acre .....do....	73	42
Return per acre over direct cost .....do....	60	17
Direct cost per pound .....cents..	12.4	15.7

Land and certain overhead costs were impossible to evaluate. However, productive land suitable for cotton is without doubt relatively expensive; figures of $500 to $1000 per acre were heard. Most Pakistani farmland, however, tends to change hands by inheritance rather than in normal commercial transactions.

On the whole, it seems probable that the *total* cost of production (including the cost of land) has little bearing on a producer's decision to grow a specific crop in the following year or even over several successive years. Direct costs, on the other hand, are more easily computed and are used by producers to determine their cropping patterns. Probably even more important in the producer's decision-making process is the unit net return above direct costs.

Pakistan has adequate ginning capacity to handle a crop of the present size. Most of the older gins are of the roller type; they process about 40 percent of the crop, with newer and more efficient saw gins handling the remainder. A majority of the domestic mills are willing to pay a small premium for saw-ginned fiber because of its lower trash content. Most foreign customers, on the other hand, prefer roller-ginned fiber because of the lower nep count. Reportedly, most of Pakistan's replacement gins will be of the saw type—a factor that

appears somewhat more encouraging to domestic consumption than to exports.

Pakistan's domestic consumption of cotton has trended steadily upward during the past two decades. This season, mills are expected to use about 1,550,000 bales. Mill activity in recent years has been aided by exports of textiles under a system whereby mills earn hard-currency allocations in proportion to their sales abroad. While this bonus system provides considerable encouragement for increased exports of textiles, many Pakistani mills are relatively inefficient, and quality maintenance on export items continues to be a problem that plagues the industry.

Cotton exports vital to Iran

Iranian cotton is well known and highly regarded in world import markets. In staple length, it appeals to the same buyers as U.S. medium and longer upland fiber. The crop is firmly established as a dependable source of income to the farmers and of foreign exchange to the nation. It is, in fact, Iran's second largest earner of foreign exchange, exceeded only by petroleum and related products.

Export shipments of cotton in 1967-68 totaled 346,000 bales, about midway between the 272,000 of 1966-67 and the record 459,000 of 1965-66. This season, they are expected to rise to about 400,000. Nearly two-thirds of the 1967-68 total was destined for Communist countries under trade agreements; the rest went principally to West Germany, the Netherlands, France, and Japan. A comparable breakdown of destinations cannot as yet be estimated for 1968-69.

Iran's 1968-69 cotton acreage rebounded from the slump of the previous season (see *Foreign Agriculture*, Feb. 10, p. 12). During the 1968 harvest, however, cotton prices to Iranian farmers are reported to have declined 4-5 cents per pound because of the downward trend in world markets and the insufficiency of capacity to gin or safely store the large outturn of seed cotton.

Nonetheless, the acreage of cotton is expected to increase moderately in 1969-70, reportedly at the expense of rice. The more efficient farmers feel that cotton is a sure and profitable crop; also, there is considerable pressure from the ginner-merchants (who help finance the crop) to maintain at least the present level of production. In recent years, such crops as hybrid corn and soybeans have shown promise as alternatives to cotton, but increases in the acreage of such products have been indirectly discouraged by the reluctance of the merchants (most of whom handle cotton also) to buy the crops at realistic prices.

Iran's fourth Five-Year Plan for Agricultural Development, which began in 1968, spells out proposals for increasing cotton area by 15 percent and yields by 25 percent. Increased cotton acreage in the Caspian area will be difficult to achieve in view of Tehran's rising food requirements. However, cotton could become an important crop in newly irrigated areas in the south and southwest.

Yield improvement appears probable, since utilization of modern production techniques is gaining acceptance among leading Iranian farmers. More deep wells are being dug on individual holdings, and land leveling is gaining importance as a method of more efficiently utilizing irrigation water. Most land-preparation operations have been mechanized. The Iranian Ministry of Agriculture offers subsidized insect control by air, and most farmers receive two to four applications; some, as many as five. This year, in four minor areas where cotton fields are too small and scattered for effective air control, the government has banned cotton cultivation, promoting sugarbeets or sunflowers instead. Fertilizer is little used, applications being light even on efficiently operated farms. Since harvest labor is becoming more difficult to obtain, there is some interest in machine picking; but machine use seems unlikely in the near future.

Most of the cotton grown in Iran was selected several years ago from U.S. varieties. The major variety, Coker 100-Wilt, was introduced in 1955. Varieties grown before that had deteriorated considerably, and their yields were low. Even though the newer seed soon became mixed with that of the older varieties, yields showed great improvement. More recently, seed derived from Acala 1517 has had considerable success in some areas. Most of the cotton Iran has available for export has a staple length of 1-1/32 inches to 1-3/32 inches, though small quantities fall outside of this range on either side.

Costs of cotton production appear to run somewhat higher in Iran than in Pakistan. Discussions with farmers suggested that direct costs and return on efficiently operated farms and on "average" farms might be estimated roughly as follows:

Item	Superior farms		Average farms	
	1967-68	1968-69	1967-68	1968-69
Lint per acre .....pounds..	714	743	353	351
Price received per pound cents..	30.0	24.5	29.0	24.0
Income per acre ...dollars..	214	182	102	84
Direct cost per acre ..do....	97	100	60	60
Return per acre over direct cost .....do..	117	82	42	24
Direct cost per pound .cents..	13.6	13.5	17.0	17.1

It should be emphasized that the larger, more efficient cotton operations are relatively small in number. Their yields are more than double the national average, and the prices they receive reflect high-quality lint. For all types of operations surveyed, costs probably apply more nearly to cotton available for export than to the lower quality fiber used domestically.

For comparison, the average direct cost of producing a pound of lint in the United States in 1966-67 (latest data published) was 20.6 cents; about 48 percent of U.S. upland cotton that season was produced at a direct cost of less than 18 cents.

Iran's cotton industry is closely supervised by the government cotton organization, which is responsible for all aspects from planting to the final lint classification. It supplies production credit for about one-third of the crop, in addition to pest-control services. Processing facilities are relatively efficient; many of the nation's gins have cleaning and drying equipment of recent design. Small quantities of non-American-type cotton and of cotton ginned in outmoded gins are withheld from export, as a measure of quality control.

Though Iran's use of imported manmade fibers (mostly rayon) has expanded rapidly in recent years, the cotton portion of the textile industry has undergone little change. Manmade fiber imports reached an estimated 34,000 metric tons in 1967-68, nearly double the level of 5 years earlier. Cotton consumption, however, continues to range around 225,000 bales. For the most part, cotton textile equipment is operated with relative inefficiency.

Opposition Plans for British Agriculture

In two speeches delivered last month to branches of the National Farmers' Union, Joseph Godber, opposition spokesman on agriculture in the House of Commons (often referred to as the Shadow Minister of Agriculture) made important pronouncements on the way the Conservative Party will support British agriculture if it is returned to power at the next general election. Mr. Godber's speeches could be said to derive directly from the debate in the United Kingdom in the second half of 1968 based on the report entitled Agriculture's Import Savings Role *by the Economic Development Committee and from two speeches by Minister of Agriculture Cledwyn Hughes in November. In these speeches (reported in the December 2 and 16, 1968, issues of* Foreign Agriculture*) Mr. Hughes outlined the government's reactions to the EDC report and what the government proposed to do to implement the report's proposals. The import of both speeches is reported here.*

Both the present Labor Government and the Conservative opposition are at one in the belief that British agricultural production should expand during the next few years as a means of saving imports and helping improve the country's balance of payments. The difference between the two parties lies in the means to this end and is primarily one of emphasis.

In general terms, Mr. Godber and the Conservative Party take the view that agricultural expansion as proposed in the Economic Development Committee's recent report on agriculture's import-saving role is both possible and necessary. In order to achieve expansion on the lines of the report, however, the present British deficiency payments system with relatively unhindered imports will not bring about the desired increase in production. The Conservatives believe that the only way to encourage farmers to expand production is to give them higher market prices and to diminish significantly the role played by imports in the total British supply picture for agricultural products.

Advantages of variable levies

The Conservatives would, during a transitional period of 3 years, bring the deficiency payments system to an end and substitute for it variable import levies with target prices for British production set at levels higher than the present guaranteed prices.

In the Conservative's view this would have a double advantage because the levies proposed for imports would vary according to offering prices of the imports. The present uncertainties introduced into the market through badly phased arrivals of imported products would disappear, giving farmers a reliable and steady price level for British products. Secondly, because the farmer would receive his price directly from the market in the form of higher consumer prices and not from the taxpayer as at present, the old antagonism between agriculture and the Treasury over public expenditure would disappear.

Mr. Godber acknowledges that his party's policy is bound to increase food prices and the cost of living, but he points out that the direct saving to the Exchequer from the abandonment of deficiency payments would be about $360 million. Also, it is estimated that levies on imports of temperate agricultural products should raise a further $240 million at least to begin with, although this figure will decline as the expansion of home production reduces dependence on imports.

It is proposed that part of this $600 million a year be used for improvements in social security benefits to relieve those most affected by higher food prices, but most of the money could be used for reductions in general taxation.

Under the Conservative Party's system the Annual Review procedure would be maintained. But instead of fixing guaranteed prices based on deficiency payments as at present, target prices would be set for each commodity, and the levies would be set with reference to those target prices. All imports would pay a levy arranged to insure that their price was at least equal to the target price. The amounts of the levies themselves would vary with the price at which imports are being offered and would be automatically increased if foreign suppliers subsidized exports to the United Kingdom.

However, it is intended that these levies would be set with reference to the lowest current offer for importers, in order to maintain an incentive for the importer to buy as cheaply as possible within the framework of the general policy. The major difference between what is being proposed and the present system of minimum import prices for cereals is that the minimum import prices would be set much higher than at present, and the levies would be applied on a general basis rather than country by country.

Would maintain grants and subsidies

There is one area of the present British agricultural support system that the Conservatives intend to maintain and develop, however. That is the area of production grants and subsidies, such as those for fertilizers, lime, land improvements, and drainage.

In speaking on specific sectors of agriculture, Mr. Godber—like Mr. Hughes last November—has been careful not to set out specific production targets; rather, he has simply from time to time referred back to the EDC proposals of what is technically possible. When talking about prices, however, Mr. Godber has been a little more specific than Mr. Hughes. For example, in speaking of grains, Mr. Godber talks of farm prices being increased between $9.60 and $12.00 per ton over present average levels in order to make up for the elimination of deficiency payments. Mr. Godber disagrees somewhat with the EDC on the proposed expansion for wheat (an increase of 1.9 million tons over the next 5 years). He, like Mr. Hughes, foresees some technical problems in achieving such an expansion and states that he would prefer to see wheat and barley increasing in step.

Also, Mr. Godber advocates a greater role for the Home-Grown Cereals Authority and suggests that it should enter into support buying if a heavy flow of home production looks as though it is undermining the market. Mr. Godber goes further than Mr. Hughes in advocating that the Authority should be charged with research in the production of more British hard wheat in order to reduce the United Kingdom's present dependence on hard wheat imports.

Policy for other farm sectors

Beef and milk. The Conservative policy is to attack the problem created when the production of more calves for beef undermines farmers' returns for milk by imposing stiff levies

on imported dairy products, particularly cheese and dried milk. This should make it possible to increase the prices for manufacturing milk in order to prevent dilution of the pool price to producers. The Conservatives would also like to encourage greater milk production at times when the liquid market is sluggish.

Livestock in general. Mr. Godber acknowledges that higher cereal prices would increase costs of production. Import levies on beef should, therefore, be arranged to at least offset these increased costs. Calf subsidies and other production incentives would work alongside levies as the major form of encouragement for expansion.

Eggs and poultry. Again increased cereal costs would need to be offset. Minimum import prices for eggs and egg products are advocated. Minimum import prices for poultry meat are also proposed, to prevent dumping, but Mr. Godber believes that the rising efficiency of the poultry meat industry would probably enable the industry to absorb cost increases.

Pigs. Target prices would need to take into account the higher cereal prices. As far as import levies on pigmeat are concerned, the problem is not in the fresh pork sector in which the United Kingdom is already self-sufficient, but in bacon. Mr. Godber believes that any levy system would have to be combined with a renegotiation of the Bacon Market Sharing Understanding with emphasis on a provision to enable British farmers to obtain a growing share of the market.

—Based on dispatch from DAVID P. EVANS
Office of U.S. Agricultural Attaché, London

Farmers' Union Examines U.K. Agricultural Policy

The 1969 Annual General Meeting of Britain's National Farmers' Union was held in London last January 21 and 22. This meeting is the occasion when delegates from local and county branches of the union have the opportunity to hear the union's chief officers explain union policy, to put their points of view to those officers, and to express their approval or disapproval of union policies.

Since the NFU is, in effect, the only farmers' organization in the United Kingdom with any influence on government policy, the meeting is an occasion of some importance for all those interested in the present and future condition of British agriculture.

This year's meeting was held at a time when discussion and debate on British farm policy has been particularly intense. There is now a broad measure of agreement in Britain that U.K. agriculture should be encouraged to expand production. The debate hinges on by how much, by what means, and how quickly. The two pegs on which the discussion is based are the report entitled *Agriculture's Import Saving Role* by the Economic Development Committee for Agriculture and policy speeches on the same subject by Minister of Agriculture Cledwyn Hughes. (See also story on page 5.)

Expanded production, reduced imports

The meeting was dominated by the opening speech of the union's president, G. T. Williams. Keynote of this speech was expanded U.K. production and reduced imports of temperate agricultural products. Mr. Williams referred to the United Kingdom's chronic balance of payments difficulties and claimed that the problem cannot be solved by increased exports alone—that "the import-saving industries, prominent amongst which is agriculture, will also have to make a big contribution."

In speaking of import saving, Mr. Williams was careful to concentrate on regulation rather than simple cutting back. Referring to the United Kingdom's current problems with imports of low-priced cheese from nontraditional suppliers, he drew the attention of the meeting to U.S. import policy in the meat and dairy sectors, ". . . Australia and New Zealand insure that in exporting beef and mutton and lamb to the American market they do not incur the wrath of the American livestock producer and the American Government. . . . The Americans have also recently tightened their import restrictions on cheese and other milk products. This stands in marked contrast to the recent difficulties experienced by our government in seeking to institute a voluntary arrangement . . ."

Mr. Williams spoke of the need for government talks with the exporting countries concerned and the need to convince them that it was in their interest as much as the United Kingdom's to avoid the disrupting consequences of badly timed and overly low-priced imports. But he warned that "no British Government is in a position to guarantee that it will be able to secure a full waiver from existing international commitments."

Inflation squeezes farmers

Closely interwoven with his import regulation theme was an examination of policy within the United Kingdom and the means required for expanded production. He referred to the "general uncertainty and lack of confidence" and said that this arose not only from last year's bad weather and foot-and-mouth epidemic but also "from the fact that farmers and growers, particularly since devaluation, have been squeezed by the full impact of cost inflation. . . . the major issue in the weeks ahead is going to be the *profitability* of the industry."

Mr. Williams insisted that the only acceptable and effective means of achieving this profitability was an adequate level of farm income. He said the government must therefore be prepared "to allow the industry not only to retain the whole of any benefit accruing to it from its increased productivity but also to provide a net margin to enable producers to finance expansion."

President Williams and the body of the meeting were in no doubt as to how this goal should be achieved: through the Annual Review setting satisfactory *guaranteed prices.* The meeting firmly rejected Conservative Party policy which would replace the present U.K. system of agricultural support with variable levies on imports and target prices for U.K. production, although still within the framework of the Annual Review.

With greatest vehemence Mr. Williams rejected the target price concept. Farmers' union policy, he said, is "to buttress and underpin the present guarantee structure with an extension of import regulation. . . . Our aim is to secure more of the farmer's return from the market and less from the Exchequer."

Dispatch from DAVID P. EVANS
Office of U.S. Agricultural Attaché, London

OECD outlook

Output of Fresh and Processed Tomatoes Increasing

Production of tomatoes, cultivated from the sunny fields of the Mediterranean countries to the heated greenhouses of Alaska and consumed in probably more forms than any other vegetable, has grown spectacularly in the last few decades. The uptrend is expected to continue, with 1970 output anticipated at 27 percent above the 1961-64 average in member and associate countries of the Organization for Economic Cooperation and Development, according to a recent OECD report.[1]

For 1970 total production of tomatoes in the OECD area is set at 16.8 million metric tons, compared with a 1961-64 average of 13.2 million. Most of the increased output will come from the open-field producing countries of North America and southern Europe that are already self-sufficient producers and, in many cases, exporters of fresh and/or processed tomatoes. Of the 3.6-million-ton increase, tomatoes for the fresh market will account for about 1.7 million tons and those for processing, 1.9 million. In addition to the general rise in production, major trends emerging in tomato growing are greater commercialization of production and increased planting of varieties with specific uses.

Consumption rises vary

Consumption of tomatoes in 1970 in the entire OECD area is expected to rise to 15.6 million tons from a 1961-64 average of about 13.0 million. This increase divides to three-fifths for fresh use and two-fifths for processing. Overall per capita consumption will be up 4.4 pounds from the 1961-64 average of 42.9 pounds, with the increase in consumption of fresh tomatoes almost twice that of the processed ones.

Regionally, however, the picture changes. North America's (Canada and United States) entire increase probably will result from population growth since per capita use appears to have leveled off at some 60 pounds, less than 12 of it fresh. The open-field producers of southern Europe—the world's biggest per capita consumers of tomatoes—expect a large per capita increase—over 11.5 pounds, some 8.6 of it fresh. Mixed producing countries in central Europe will see a much smaller increase of 2.6 pounds, nearly all processed. In the under-glass producing countries of northern Europe, the lowest per capita consumers, consumption is expected to be up 2.4 pounds, with almost 2 pounds of it in the processed form. Japan's consumption is expected to rise 6.6 pounds, 4.8 of it fresh.

As regards foreign trade, markets for fresh and processed tomatoes are largely independent of each other. At the present time in the OECD area fresh tomato markets in North America, Europe, and Japan are pretty much unconnected, while trade in processed tomato products is not restricted by perishability. Japan's trade in both, however, is negligible.

In North America, says the OECD report, shortfalls in the U.S. and Canadian crops for the fresh market will continue to be met mainly by imports from Mexico. The United States will continue to export some quantities to Canada. The OECD projects a rise of 60,000 tons in combined U.S. and Canadian imports in 1970 from the 1961-64 average of 180,000. U.S. shipments to Canada are put at 50,000 tons.

Europe in 1970 is expected to have an export availability of about 680,000 tons of fresh tomatoes, against the 1961-64 average level of 471,000. Almost the entire increase will be accounted for by "glasshouse" type tomatoes, largely from Spain (including the Canary Islands), the Netherlands, and Belgium-Luxembourg. Spain alone expects an exportable surplus of 300,000 tons. In Italy, which only exports open-field tomatoes, availabilities are expected to stay at the 1961-64 level of some 50,000 tons.

Import demand for fresh tomatoes in the European OECD countries in 1970 is put at 700,000 tons against an average 632,000 in 1961-64. This, compared with export availabilities of 680,000, leaves a net deficit of 20,000 tons. The imbalance in supply and demand is small, however, and should present no great marketing problems.

Processed tomato trade

The OECD area accounts for a substantial portion of world trade in processed tomatoes. During 1961-64, OECD countries exported 1,240,000 tons of processed tomatoes (fresh equivalent) and imported 950,000 tons. Export availabilities are expected to rise to about 2,240,000 tons and import requirements to 1,115,000 in 1970, leaving an exportable surplus of 1,125,000, 835,000 tons higher than that in 1961-64.

Most of this larger export availability will be in Europe. It appears unlikely, however, that European exporters will find greater outlets for their processed tomatoes in either North America or Japan. In North America a small increase is expected in both imports and exports, with the net deficit holding at about 150,000 tons. Japan's imports are expected to decline to 8,000 tons in 1970 from 11,000 in 1961-64.

European OECD countries are expected to have 2,110,000 tons of processed tomatoes available for export in 1970, an increase of 990,000 from the 1961-64 level. Additional availabilities will be almost exclusively in countries with comparatively young processing industries—Portugal, Greece, Spain, Yugoslavia, and Turkey. Italy is expected to more or less maintain its export volume of about 900,000 tons.

Import requirements for processed tomatoes in the mixed- and under-glass producing countries of central and northern Europe are rising, but only gradually. For all the OECD countries in Europe, import requirements in 1970 are placed at about 880,000 tons, compared with 719,000 in 1961-64. Thus, the expected rise of 160,000 tons in import requirements is some 830,000 tons smaller than the anticipated rise in export availabilities. The OECD report concludes that the market situation for processed tomatoes will present problems in the future and that there will be strong competition among exporters for limited outlets.

[1] *Tomatoes: Production, Consumption, and Foreign Trade of Fruit and Vegetables in OECD Member Countries; Present Situation and 1970 Prospects;* Organization for Economic Cooperation and Development; Paris, 1968. Full members of the OECD are Austria, Belgium, Canada, Denmark, France, Germany (West), Greece, Iceland, Ireland, Italy, Japan, Luxembourg, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, Turkey, the United Kingdom, and the United States; Finland and Yugoslavia have special status. The report also covers the important non-OECD tomato producers: Mexico, Morocco, Algeria, Tunisia, Bulgaria, Romania, and Hungary.

For over 80 years USDA entomologists have been engaged in a global insect safari—tracking down the natural enemies of some of our most damaging plant and insect pests.

Biological Control: The Natural Pest Killer

Few people will dispute the value of our international commerce. Unfortunately, this commerce from the very beginning of our history has been responsible for the introduction into this country of many destructive pests. Once established here, these pests have generally wrought more damage than they did in their native lands.

One reason for the successful adaptation here of many of these pests is that they came without their natural enemies—the parasites and predators that frequently kept them under control back home. It follows, therefore, that one way to bring them under control is to introduce those parasites and predators—provided, of course, that the latter can adapt to their new environment as well as the pests did and not prey on crops and other friendly insects.

For over 80 years now, the U.S. Department of Agriculture has been engaged in just this kind of pest control, sending its scientists around the world to hunt down the natural enemies of established pests. Among the first to set out on an insect safari was Albert Koebele, who in 1888 sailed clear to Australia to seek out natural enemies of the cottony-cushion scale. This insect was attacking citrus groves in California and could have annihilated the entire citrus industry there. In Australia Dr. Koebele found a ladybird beetle that preys on the scale and began shipping consignments of it back to the United States. In 2 years the scale was brought under control and remains so to this day.

Dr. Koebele was followed by other scientists who hunted down and sent back parasites and predators from Europe, Asia, and Oceania. Among the early parasite introduction programs, one of the most extensive was mounted between 1905 and 1933 against the gypsy moth. Of 42 kinds of parasites and predators imported from Europe and Japan, 11 became established. These have helped notably to reduce gypsy moth damage and delay the spread of this pest out of the northeastern United States.

Editor's note: We gratefully acknowledge assistance from Dr. Reece I. Sailer, Chief, Insect Identification and Parasite Introduction Research Branch, Agricultural Research Service.

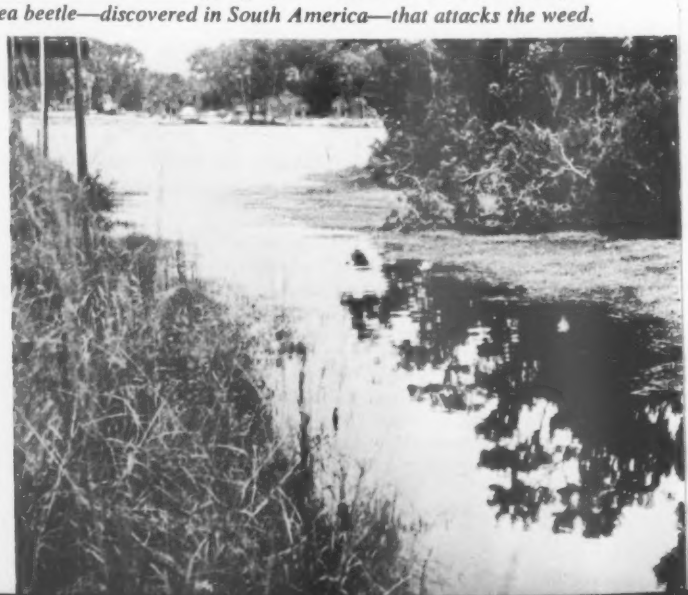
War on alfalfa weevil

Another early project followed discovery of the alfalfa weevil in Utah in 1904. Of the parasites sent here, mostly from Italy in 1911-12, three were established. One, *Bathyplectes curculionis*, brought substantial control but by itself was unable to prevent serious economic loss. When the weevil was discovered in Maryland in 1952 and spread rapidly through the Eastern States, efforts at chemical control met with serious residue problems. Scientists turned to biological control in 1959, bringing in *B. curculionis* from California, where it had spread from the early colonies established in Utah. In addition, two new parasites were imported from Europe and quickly established in New Jersey. In 1968 two more from Europe were released in sufficient numbers to insure probable establishment.

During 1968, damage in a four-State area around Moorestown, N.J.—where the domestic phase of the work against the weevil has been pursued most intensively—declined to the lowest level since the parasite invaded the region. Some scientists believe the decline in alfalfa weevil populations was associated with the release of parasites. Effective control of the weevil involves high stakes—some 30 million acres of farmland which would cost an average of $6 per acre to protect with chemicals.

The first permanent foreign outpost for the collection and

Below left, canal near Jacksonville, Fla., was so choked up with alligatorweed, it looked more like a field than a waterway; right, same canal some 18 months after release of a flea beetle—discovered in South America—that attacks the weed.



shipment to the United States of parasites and predators was USDA's European Parasite Laboratory set up in Auch, France, in 1919. Its assignment was to hunt for natural enemies of the European corn borer, which was discovered in Massachusetts in 1917 and was quickly becoming a menace to one of our most important grain crops. This pest, the larva of an Old World moth, probably had entered the United States in a shipment of broomcorn.

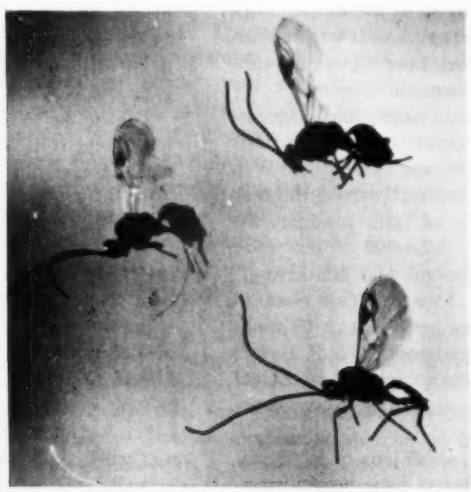
In the 18 years between 1920 and 1938 the European Parasite Laboratory was the nucleus from which some 24 million hibernating borers, collected primarily in France and Italy, were shipped to the United States for experimental purposes. From these shipments and similar ones from Asia 24 species of parasites in early stages of development were obtained and colonized. Six actually became established and were credited with substantially reducing the number of corn borers throughout the Corn Belt during the 1940's and 1950's—a period of heavy attack. Among the six, the most widely established and effective was *Lydella thompsoni*, a fly maggot that establishes itself inside the borer's body and stays there until the host dies. In the mid-1950's this parasite was credited with an infestation rate of between 10 and 45 percent in the Eastern and Middle Atlantic States and between 45 and 75 percent in the North Central States.

By the late 1950's the corn borer population had fallen to a low level. While some people attributed this to the successful establishment of its natural enemies, others credited new, resistant corn varieties; improved cultural practices; insecticides; or a combination of all three. It may have resulted from an interaction of all four. Whatever the cause, interest in the parasites waned. Perhaps too soon, for in 1968 there was a remarkable resurgence of the European corn borer. Coincident with this increase was the discovery that *L. thompsoni* seemed to have disappeared from the Corn Belt.

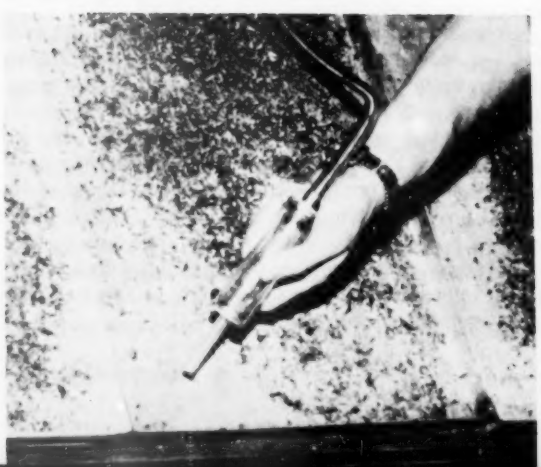
Chemicals cause setbacks

Biological control work was slowed down by the discovery of DDT during World War II and the array of insecticides produced by chemical laboratories in the decade following the war. These were such powerful and versatile weapons against pests that interest in biological control diminished. In the Federal service activity in this field dwindled to a point where scarcely a half dozen scientists were fully engaged in biological control work. The most important centers remained the European Parasite Laboratory and a parasite receiving and distribution laboratory at Moorestown.

This dormant period for biological control was not to last very long. Farmers, entomologists, and others involved in pest control soon realized that insects could build up resistance to insecticides. Development of new insecticides led to develop-



Clockwise from far left: alfalfa plant damaged severely by alfalfa weevil; Microctonus aethiops, *a parasite of the alfalfa weevil; European Parasite Laboratory staff working from mobile unit; parasitized alfalfa weevils are sorted so that the parasites they contain can be recovered.*



ment of new resistances, and so on in a frustrating circle. At about the same time, people were becoming concerned with the residues left by insecticides, especially after the widespread controversy over Rachel Carson's book, *The Silent Spring*. Interest in biological control heightened anew.

With this renewed interest the worldwide hunt for parasites and predators gained momentum. The work of the European laboratory was expanded. Today, the laboratory is part of the Agricultural Research Service's Insect Identification and Parasite Introduction Research Branch. Located outside Paris at Gif-sur-Yvette, it has a professional staff of three American entomologists and six local employees. The scope of its work has broadened to include discovering, collecting, and shipping to the United States beneficial insects that might be established to prey on pests of crops, forests, and livestock.

The laboratory at Gif-sur-Yvette is USDA's most important base of operations against the most recent pest to threaten the American farmer. This is the cereal leaf beetle that was first discovered in Michigan in 1962 and now infests an area that includes all or parts of seven States and threatens 42 million acres of small grain crops now grown in the United States. Of the four important parasites found in Europe, one has been established successfully, and intensive efforts are underway to establish the other three.

Other foreign outposts

Two other USDA outposts for parasite collection are located in Rome and Buenos Aires. Entomologists at the former work almost exclusively with insects that attack weeds of Mediterranean origin, while those at the latter hunt through southeastern South America for enemies of aquatic weeds.

In the last 10 years foreign scientists have joined increasingly in the search for parasites and predators of insect pests that plague the American farmer. This was made possible in 1958 by the inclusion of agricultural research among the uses to which funds generated by the sale of farm products for foreign currencies under Public Law 480 could be put. (See "P.L. 480 Research Stresses Pest Control and Marketing," *Foreign Agriculture*, Jan. 1, 1968.) As a result of research grants, entomologists in five countries have sent ARS more than 100 shipments of parasites and predators. This P. L. 480 program has expanded substantially the search for biological control agents—with no dollar cost to the United States overseas.

The worldwide insect hunt is only a small part of biological control. After the parasites and predators have been discovered and collected, they require close care. Some live such a short time or are so demanding in their temperature, humidity, or host requirements that only the most experienced entomologists can hope to keep them alive long enough to propagate and colonize them successfully. Parasites and predators from abroad often arrive with parasites of their own; these secondary parasites must be destroyed for they would reduce the efficiency of the beneficial species and perhaps even attack native beneficial insects. Much of this work is done at the Moorestown laboratory. A laboratory in Albany, Calif., handles insects being introduced to combat weeds.

Once the parasites or predators have passed quarantine and sufficient numbers are available, they are sent to other Federal laboratories or to State cooperators for immediate release in the field or for further study and propagation. Once in the field, the parasite may find its surroundings too strange for survival. There may be subtle differences in climate. Agricultural practices are certain to be different. Alternate hosts required to tide the parasite or predator over periods when the principal host is not present in a susceptible stage of development may be absent.

Much work remains

These factors explain why the ratio of successful to unsuccessful introductions has been relatively low. During the past 80 years, attempts have been made to introduce natural enemies of 80 pests. About 520 enemy species have been imported. Of these 115 have become established, but only about 20 have resulted in substantial control of the pest they were imported to combat. By contrast, at least 700 species of insect pests are known to have been accidentally introduced into the United States. Thus, the amount of work that remains to be done is great.

Among recent introductions that have been successful against an insect pest is the tiny wasp, *Neodusmetia sangwani*, first found by a USDA entomologist in India and introduced into Texas in 1959 for control of rhodesgrass scale. This scale had all but destroyed the pastures of rhodesgrass—a heat- and drought-resistant grass introduced from South Africa—that were the backbone of the eastern Texas cattle industry. Between 1945 and 1949 the King Ranch alone lost 100,000 acres of pasture. Now, in areas where the wasp is present, dense pastures of high-quality rhodesgrass are thriving again. Since the female wasps lack wings, they are airlifted as immatures inside their hosts, which are still attached to blades of grass. These are placed in small cartons and dropped from a low-flying airplane over the infested area under a cooperative program by ARS and Texas A&M University entomologists.

During the past year, *N. sangwani* was taken from Texas to Brazil where it has already been released in five States where scale damage to forage was threatening the cattle industry.

Antiweed success stories

Work on introduction of insects to control weeds—while underway for only a quarter of a century so far—has yielded rich dividends. In 1944 Klamath weed—which crowds out desirable range forage and is poisonous to cattle—infested over 2 million acres in California and in subsequent years spread to thousands of acres in adjacent States. A beetle known to attack the weed was imported from Australia—which had brought it from Europe for the same purpose—and was established here. As a result, ranchers in California alone gained $20 million in increased land value, reduced cost of control, and higher weight gain of livestock between 1953 and 1959—a substantial return for work that cost less than $100,000.

The latest successful battle against weeds is shaping up rapidly against alligatorweed in the Southeast. This South American weed chokes up waterways, interfering with navigational and recreational uses. In the early 1960's USDA scientists in South America found three insects that attack the weed. One, a flea beetle called *Agasicles*, was released in 1965 at a choked-up canal near Jacksonville, Fla. Between the spring of 1965 and the fall of 1966 the canal was completely cleared. By 1968 the beetle was at work from Texas east to Florida and up the coast to Wilmington, N.C. Further action to control the weed in Florida was discontinued during 1968. Now a new safari is underway in South America to find and introduce insects that will be equally effective against the water hyacinth—another waterway pest.

German Tax Moves No Help to U.S. Raw Cotton Sales

Special West German border taxes and tax refunds, designed to increase imports and decrease exports, have put the German cotton textile industry in a muddle and will probably have the result of cutting down raw cotton imports, including those from the United States.

The new tax arrangements were passed after the monetary conference at Bonn, which attempted to remedy Europe's November 1968 currency crisis. The measures will be in force through March 31, 1970, unless changed or terminated by the German Government. Most imported commodities, including cotton and cotton textiles, now receive a 4-percent-of-value tax refund at the German border; German exports, however, are subject to a 4-percent ad valorem tax. These new regulations affecting trade in commodities have been called a quasi-revaluation of the Deutsche mark.

Finished goods favored

Although the price decrease for both raw cotton and cotton textiles will be the same at the German border, imports of cotton textiles will be stimulated far more than imports of raw cotton. The German consumer who buys imported textiles will enjoy the full benefit of the 4-percent tax decrease; but the purchaser of German-made cotton clothing or cloth will find very little of the 4-percent tax refund on raw cotton reflected in the textile retail price. The difference is that prices for textiles are only minimally affected by prices for raw materials, which make up only 10 to 20 percent of textile costs. The price-conscious German consumer will buy more foreign textiles and less of domestic manufacture.

The tendency of consumers to buy foreign fabrics, coupled with the increased price of German textile exports and therefore possibly smaller sales, might finally force the German textile industry to limit production. This move would not only be small stimulation to imports of raw cotton but could shove import volume below its present level.

Cotton merchants' plight

The most immediate impact of the new import regulations was on raw cotton merchants in Germany. All the stocks they held in warehouses within the national customs boundary were devalued in effect on the date the new taxes became binding—November 20, 1968. Some of the stocks were unsold, and some were being stored for delivery to spinners to fulfill contracts negotiated before November 20. The devaluation of the unsold stocks is evident because of the prevailing new, lower prices. But even stocks held against contracts are affected because of the pressure spinners can exert on merchants for price concessions. Commercial considerations will compel most merchants to slice from 2 to 4 percent from previously negotiated prices.

An attempt was made to reach a general agreement between the cotton merchants and the spinners, but the effort was unsuccessful. Each cotton merchant is bargaining with his own customers in an attempt to minimize his losses while retaining customer favor. Negotiations between merchants and spinners are further complicated because the customers of many spinners (weavers and knitting mills) are demanding price reductions on formerly concluded contracts for goods for future delivery.

The value of raw cotton stocks held by cotton merchants on November 20 is estimated at between US$17.5 million and $20 million. If merchants have to absorb the entire 4-percent loss caused by the new tax arrangements, it will cost them about $750,000. In addition, merchants will be at a disadvantage on contracts for re-exports of raw cotton concluded before November 20 because they must pay the 4-percent export charge.

Stock reductions

The German cotton trade has strongly criticized the government's manipulation of foreign trade balances through border tax measures that have inflicted heavy losses on some cotton-trade members. Cotton merchants and spinning mills feel they have been penalized for maintaining substantial cotton stocks in line with the government's expressed wishes that large stocks of raw materials be kept in storage within the borders of West Germany. They are even more exasperated by the uncertainty they feel; in their opinion other changes in border tax rates, or some unforeseen measures, could be introduced before long.

Because of this attitude, the cotton trade expects to drastically reduce raw cotton stocks and keep them at the minimum possible to their operations. Such cuts in stocks would result in a moderate reduction of raw cotton imports during the 1968-69 marketing season compared to the level expected before the new border tax measures came into effect.

—Based on dispatch from
LEO M. GOODMAN
U.S. Consul General, Bremen

U.S. Cotton Exports Slump in France

Because of some long-standing preferential trade arrangements and some new developments affecting the French cotton mill industry, U.S. cotton sales are having tough sledding in France.

The most severe competition is from African countries within the franc zone. French buyers in making purchases from these sources are not concerned with currency exchange regulations and do not risk currency exchange losses. These factors may become even more crucial in the future because of some of the new currency exchange requirements following the French monetary crisis in November 1968. A rule officially posted in December 1968 requires special authorization in advance by the Customs Administration for forward foreign exchange cover for imports of cotton. This cover can be obtained for only 1 month and is not renewable; it is also obtainable only for the currency specified in the import contract. The new rule will probably have an adverse effect on U.S. cotton exports to France.

The short U.S. cotton crop in 1967-68 left an opening on the French market for the entry of cotton from some Mediterranean producers and favored shipments from Pakistan and the Soviet Union. Now that these sellers have established themselves in the market, U.S. cotton exporters may find it hard to dislodge them. The French trade considers the quality and delivery procedures of the new sellers satisfactory.

French buyers indicate that although U.S. cotton prices are comparable to prices of other suppliers, sometimes U.S. deliveries are uneven in quality, poorly packed, and do not conform to contract specifications. In addition, they claim that arbitration of U.S. shipments is sometimes slow and difficult compared to settlements with other suppliers.

—Based on dispatch from *Office of U.S. Agricultural Attaché, Paris*

Ivory Coast Aims at Larger Supply of Animal Protein

Although agriculture is one of the mainstays of the Ivory Coast's economy, the country's farmers do not produce enough meat to satisfy the demands of the population. Domestic beef production supplies only 20 percent of beef marketings; only 52 percent of the sheep and goat meat eaten each year comes from animals raised within the country. Pork output is high enough to meet demand—but many Ivoirians do not eat pork for religious reasons. Poultry and poultry products, though in reasonable supply at present, would certainly have greater use if larger quantities were available at lower prices.

The importation of livestock and livestock products to close the gap between local production and demand results in the expenditure of about US$25 million each year. As the country becomes more urbanized, achieves a higher standard of living, and increases in population, the commercial demand for animal protein —meat, milk, eggs—will escalate.

Triple-front advance

In an effort to cure its animal protein pinch, projects of three general types have been designed in the Ivory Coast to increase output of red meats, poultry meat, dairy products, and eggs. The first general type concentrates on improving breeds of cattle, hogs, sheep, goats, and poultry and thereby increasing output of meat, milk, and eggs. The second type focuses on animal health and better returns per animal because of the elimination of diseases and parasites. The third aims at improving production of animal protein by the use of new and better animal feeds, some of which are byproducts of other agricultural operations.

Selection and crossbreeding

Examples of improving breeds of animals are the studies with cattle at the agricultural stations at Minankro, Korhogo, and Bingerville.

Cattle of one of the local breeds, N'Dama, are selected at Minankro and Korhogo for size and quality and kept for breeding. Slaughter cattle at these stations now average about 560 pounds; unimproved N'Dama cattle in the Ivory Coast average about 485 pounds at slaughter. A larger, more meaty beef breed, the Zebu Gobra, has recently been introduced at Korhogo as breeding stock to improve slaughter weights.

A similar project with Boulée cattle was started at the Bouké Research Center in 1967.

At Bingerville and Minankro work is in progress on developing a dairy breed for local conditions. N'Dama cattle are selected on the basis of milk production and kept for breeding. Jersey cattle have been crossbred with N'Dama and the offspring yield up to 630 gallons of milk each lactation period.

Work has also been done in poultry development. Although eggs are much liked by Ivoirians, limited production and high prices at present prevent greater utilization of eggs in local cuisines. The Animal Research Center at Bingerville, however, has developed a Rhode Island-Plymouth Rock cross whose hens lay at least 217 eggs per year—several times the number of eggs local hens lay. Distribution of such improved poultry stock should markedly increase egg supplies.

Animal health

A number of campaigns are underway to increase animal protein output by improving animal health. Elimination of cattle diseases is being specially emphasized. Most of those common in the Ivory Coast are, fortunately, comparatively easy to control. An exception, however, is rinderpest, which is now the object of an eradication campaign by the Ford Foundation and the U.S. Agency for International Development.

Another stressed program is that for vaccinating poultry against the major fowl diseases that regularly sweep flocks in the Ivory Coast.

New animal feeds

One of the reasons for low animal production levels in the Ivory Coast is lack of dependable supplies of quality feeds. This problem is being attacked from several angles.

Considerable study has been given to introducing new, faster growing forage grasses for the slow growing grasses now common in pasture areas. Some of the grasses being considered are *Stylosanthes gracilis, Brachiaria mutica, Tripsacum laxum,* and *Centrosema pubescens.*

In addition, utilization of such feed ingredients as corn, byproducts of rice and flour mills, and meal from peanuts crushed for oil are being accelerated. Some more unusual feeds, such as brewery residues and water grasses, may contribute to the development of the hog industry. —Based on dispatch from

C. MILTON ANDERSON
Assistant U.S. Agricultural Attaché
Monrovia

Malagasy Republic Plans Beef Buildup

Nearly 10 million cattle graze on grasslands that are almost two-thirds of Madagascar's total area. But livestock and livestock products provide only 10 percent of the island's total agricultural exports. Most cattle producers are traditional agriculturists and are unaware of the opportunities for commercial development of beef production. At present, less than 2 percent of the national herd is processed for market each year.

The Malagasy Government, with the assistance of a loan of US$2.8 million from the International Bank for Reconstruction and Development, plans to introduce some changes. Six cattle ranches of 49,000 to 62,000 acres each will be established as the first stage in a long-term livestock development program. Four of the ranches will have both breeding and fattening operations; the other two will be for fattening.

Ranch development will be carried out by Ranch State Farm "Omby," specially established for this purpose. Support will be provided by the Ministry of Agriculture, Rural Development, and Food.

At first all ranches will be owned and operated by the government. But they will be developed so that eventually five of them can be subdivided into ranchlets of about 2,470 acres each. These ranchlets will eventually be transferred to private ownership. The recipients will be producers trained in cattle management by the livestock development program.

The sixth ranch will use imported Brahman bulls to improve local stock and will grow and distribute legume seed to upgrade natural grasslands. This ranch will be retained by the government to provide a center for training and for sales of improved bulls and pasture seeds.

A beef industry is a promising endeavor in Madagascar. In addition to wide grasslands and high cattle numbers, the island has a favorable climate, adequate water, and no major cattle diseases.

English Tots Take to U.S. Turkey Dinner

Schoolchildren throughout Britain's Borough of Hounslow recently enjoyed a special celebration dinner prepared with U.S. turkey roll. The dinner being eaten below with great gusto comprised turkey roll from the United States, brussels sprouts, peas, roast potatoes, bread sauce, and stuffing, followed by pudding and custard.

An important index of the meal's success was the children's interest in prolonging it. Many of them came back for second, third, and sometimes fourth helpings.

Catering of school meals with U.S. turkey roll has been made possible through the economy and easy portion control of the product. These two factors make it possible to serve a festive dinner while keeping within the low authorized cost per child per dinner.

Above, members of school's kitchen staff slice U.S. turkey roll for the oven; right, one of the children gets down to the business of enjoying a turkey-based meal.

U.S. Turkeys on Board

Featured this season at midnight buffets aboard three Italian luxury liners cruising the Caribbean are 20- to 30-pound U.S. turkeys like the one shown above. These vessels—the *Leonardo da Vinci*, the *Raffaello*, and the *Michelangelo*—are not only all named for famous Italian artists, but are famous in their own right for the artistry of their chefs and their high-quality gourmet cuisine. Each ship takes on from 1 to 2 tons of U.S. turkeys a week during the December-May Caribbean cruise period.

Turkey Promotion—A 1968 Success Story

Looking to recent successes in four widely separated geographic areas and hoping to build on them in 1969, the Institute of American Poultry Industries will continue market development program activities that led to turkey sales last year in Sweden, the Caribbean, Japan, and the Middle East.

As recently as 1958, no U.S. turkey was exported to Sweden and turkey exports from that year until 1963 averaged only about 2,000 pounds annually. But last year—though Sweden limits imports of U.S. poultry meat to cooked items—sales of U.S. turkey parts there totaled 698,000 pounds, up a whopping 68 percent over the preceding year. Yet even with this large, rapid growth, Sweden's average annual per capita poultry meat consumption in 1966 was only about 6.2 pounds—one of Western Europe's lowest, with plenty of room for expansion.

Sales of turkey parts in the Caribbean nearly doubled in 1968. Overall poultry sales were up 25 percent, with total turkey sales of 2,743,000 pounds. In Japan sales of turkey parts became significant last year, reflecting a rise in the overall drawing power of the big bird, especially in portions tailored to the small Japanese oven. At the Tokyo trade fair, where frozen and canned poultry of all types got a good reception, turkey demonstrations and sampling drew the biggest crowds.

Buyers' interest in the U.S. turkeys shown last fall at the first U.S. trade fair held in Lebanon is leading to particular interest in the Middle Eastern market in 1969. Dealers who sampled U.S. turkey at the Beirut show later placed orders, and exporters now feel that the potential market uncovered could develop into another success story for U.S. poultry.

1968 P.L. 480 Sales

During calendar 1968, 45 Public Law 480 sales agreements with a total export market value of $740 million were entered into with 25 countries. Thirty-six percent of the sales ($236 million) were for foreign currencies and 64 percent ($77 million) were on credit and ultimately to be repaid in dollars. The preceding year agreements had been signed with 22 countries for a total of $1,222 million. Seventy-five percent of this amount went for local currency sales and 25 percent to credit sales repayable in dollars.

In 1968 textiles were programed under P.L. 480 for the first time, and potatoes for the first time since early in the program.

Record grain crops in India and Pakistan were largely responsible for the decrease in the value of the 1968 agreements. Sales to India dropped from $437 million in 1967 to $167.1 million. The decrease in sales to Pakistan was even greater, from $181.8 million in 1967 to $26.1 million last year.

Foreign Buyers Told Merits of U.S. Convenience Foods

Increasingly, convenience foods from the United States are drawing the attention of foreign institutional food buyers. The following speech on the use of convenience foods in the world restaurant trade was given by Dr. Jerry Wanderstock, professor of hotel management at Cornell University, on January 7, 1969. He spoke to representatives of the hotel and restaurant industries who were visiting the HORECAVA trade fair in Amsterdam. The United States was represented at the fair by a foods exhibit featuring processed foods.

The term convenience foods makes one think of what we considered science fiction not too many years ago—the pressing of a button to activate the removal of a food from its storage depository to a unit in which it is automatically reconstituted, and from which it is plated and presented to the consumer for delectable eating. Strange as it may seem, we are not very far from this in actuality. In some instances, with certain products, this is a real happening.

Convenience foods are characterized by less preparation time, redistribution of preparation time, ease of storage and transporting because of lighter weight or less bulk, and greater quality retention. A fairly well-established definition of convenience foods refers to them as foods which have had services added to the basic ingredients to reduce the amount of preparation required in the food service establishment.

The preparation-saving advantages are many: reduced labor costs, less need for skilled labor, less time required by management to train and supervise, improved standardization of quality and cost, easy extension of food service hours, excellent portion control, simplified inventory control, and the freeing of additional time for better preparation of conventional menu items.

One tends to criticize convenience foods as eliminating individuality. But this can be achieved by adding personal touches to commercially available convenience foods. And, as embellishments create greater acceptance, they are not likely to be eliminated.

Two questions need to be asked to insure the satisfactory use of convenience foods introduced. Where can convenience foods be used to advantage? What factors should be considered before deciding to use a convenience food?

Their use is advantageous where on-premise food preparation increases high labor costs, where demand is spotty, where it is desirable to lessen the strain in meeting peak loads, where a great variety in menu offerings is required, to supplement conventional items, in low-volume locations where hours of service are long and patronage unknown, and in high-volume operations with limited help and facilities.

Factors to be considered include: how cost compares to conventional equivalents, guest reaction to product, level and consistency of quality, equipment needs, special problems the innovation creates.

We should remember that foods have been available in "convenience" form for many years. Certainly an early, classic example was condensed soup, developed in 1898. Canned foods, in general, and dry staples such as flour, to name a few, represent convenience foods of long standing. The poultry industry is a star example of the convenience food story. Market forms have shifted from live to bled, to dressed, to ready-to-cook, to parts, to prepared, to prepared and cooked, even to poultry analogs.

Probably the most common technique of "holding" convenience food entrees is by freezing. This method of food preservation, which for foods that freeze well is considered the best method in terms of appearance, palatability, and nutritive value, has been improved by sophisticated techniques of initial freezing—modification of conventional methods through the use of liquid or gaseous nitrogen, solid carbon dioxide, a combination of the two, and the use of freon. The low temperature attained—as low as −320°F—have even resulted in the successful freezing of products such as tomatoes and avocados, which previously could not be frozen successfully.

The extreme shortage of skilled chefs, the increased frequency of dining out, and the increase in individual income all presage an additional responsibility to our industry. We will not be able to fulfill the growing needs for food service with the raw foods and the personnel available.

Convenience foods are here to stay. We must try them. We must learn how to buy, store, prepare, and serve them, making them part and parcel of our food service operations. If properly chosen, they will help us achieve dependability of service, consistently high quality, uniformity of portion size and/or weight, and consistent yields of tempting dishes for less labor and greater productivity.

Far East Promotions of U.S. Beef Continue

U.S. beef promotions in Thailand and Japan during the past year have used both the exhibit technique and the person-to-person discussions that characterize the Far East's own way of doing business.

In Thailand, during a month-long beef campaign held by a top Bangkok hotel before the December fair, a U.S. beef and poultry dinner at the hotel treated 145 Thai businessmen to a split-level view of these products. Before dinner, a demonstration by Kenneth Nuernberg, FAS marketing specialist, and Carl C. Scott, Tokyo representative of the Institute of American Poultry Industries, showed U.S. cuts of chicken, turkey, and beef. During dinner, ample platefuls of the same items were greeted appreciatively. The hotel itself acts as a showcase for U.S. Choice beef by serving it regularly.

In Japan, sales of U.S. Choice beef cuts have been growing steadily since last fall's Tokyo Trade Center show starring beef. Several representatives of the Japanese meat industry are planning trips to the United States in the near future for the purpose of buying meat under the new import quotas Japan announced last fall (*Foreign Agriculture*, Oct. 21, 1968). These representatives will be investigating the possibility of importing beef carcasses in addition to the refined hotel and restaurant cuts presently being shipped to Japan. A number of Japanese firms interested in purchasing beef from the United States have jointly established a new wholesale concern which is to handle U.S. beef only. The new four-story building that will house this concern—located in Tokyo's booming Ginza business district—will also house a restaurant specializing in the product.

Several outstanding Japanese hotels are now selling U.S. beef advertised as such; one uses 4 tons a month. Leading wholesalers report that new hotel accounts are constantly being added to their customer lists for U.S. beef. Indications are that as much as 100 tons had moved into the Japanese market by the end of 1968.

CROPS AND MARKETS SHORTS

Weekly Report on Rotterdam Grain Prices

Between January 29 and February 5, 1968, there was very little change in the offer prices of wheat in Rotterdam. U.S. Hard Winter increased 1 cent and U.S. Soft Red Winter was down 1 cent. Argentine increased by 6 cents. All others remained unchanged.

U.S. No. 3 Yellow and Argentine corn prices remained unchanged, and South African White was still unquoted.

A listing of the prices follows.

Item	Feb. 5	Jan. 29	A year ago
	Dol. per bu.	*Dol. per bu.*	*Dol. per bu.*
Wheat:			
Canadian No. 2 Manitoba	2.03	2.03	2.05
USSR 121	1.95	1.95	1.93
U.S. No. 2 Dark Northern Spring, 14 percent	1.90	1.90	1.93
U.S. No. 2 Hard Winter, 14 Percent	1.91	1.90	1.82
Argentine	1.84	1.78	1.80
U.S. No. 2 Soft Red Winter	1.73	1.74	1.76
Corn:			
U.S. No. 3 Yellow	1.39	1.39	1.39
Argentine Plate	1.42	1.42	1.60
South African White	(1)	(1)	1.47

[1] Not quoted.

All quoted c.i.f. Rotterdam for 30- to 60-day delivery.

Mexican Sugar Crop Gains Slightly

Mexico's National Union of Sugar Producers places the 1968-69 (Nov.-Oct.) sugar crop at an estimated 2,458,129 short tons. This estimate is broken down as follows: 1,229,064 short tons refined, 639,334 plantation white, and 589,731 tons of raw sugar. Revised production figures for 1967-68 show 1,231,710 short tons refined, 433,743 tons plantation white, and 754,898 tons raw sugar for a total of 2,420,351 short tons. The increase in 1968-69 production is attributed to a slight increase in area planted.

The production of noncentrifugal sugar in 1968-69 is estimated at 128,969 short tons, up from the 126,764 tons produced in 1967-68.

Mexico's general sugar policy aims to hold back the expansion of production, but at the same time be capable of increasing it as domestic requirements rise. Domestic consumption for 1968-69 is estimated at 1,862,887 short tons compared to 1,783,489 in 1967-68.

Total sugar exports during 1968-69 are currently estimated at 661,380 short tons, down 31,632 from 1967-68 exports. Mexico's current share of the 1969 U.S. quota is 454,126 short tons.

U.S. Cocoa Bean Grind Decreases

Cocoa bean grindings by the U.S. cocoa industry during the fourth quarter of 1968 totaled 163 million pounds, down 6.9 percent from the corresponding 1967 period. Total grind during 1968 amounted to 641.3 million pounds, off 1 percent from 1967 grindings of 647.9 million.

Netherlands Canned Fruit, Juice Prices

The following wholesale offering prices are landed, duty-paid, and include sugar-added levy but exclude value-added tax. January and September 1968 prices include the now expired turnover tax.

Type and quality	Size of can	Price per dozen units: Jan. 1968	Sept. 1968	Dec. 1968	Origin
		Dol. per doz.	*Dol. per doz.*	*Dol. per doz.*	
CANNED FRUIT					
Apricots, halves:					
Not specified	2½	—	3.61	3.38	Spain
Do	15 oz.	—	1.72	1.59	Spain
Cherries, sweet, not pitted:					
Not specified	1	6.23	5.47	5.10	Italy
Cherries, R.S.P.:					
Not specified	5 kg.	38.12	30.66	24.86	Yugoslavia
Fruit cocktail:					
Choice, light syrup	2½	—	5.70	5.04	United States
Do	425 gr.	—	3.48	3.28	Australia
Choice, heavy syrup	2½	—	5.27	5.07	Italy
Choice	3 kg.	—	16.18	14.85	Spain
Peaches, clingstone:					
Choice, heavy syrup	2½	—	4.61	4.41	United States
Do	2½	—	—	4.08	South Africa
Choice, light syrup	2½	3.78	4.28	4.08	United States
Do	2½	—	—	3.81	South Africa
Standard, light syrup	2½	—	—	3.05	Greece
Pear halves:					
Choice, heavy syrup	2½	—	5.01	4.71	Australia
Do	2½	4.61	4.04	3.85	Italy
Pineapple:					
Slices, fancy	2½	5.40	5.47	5.14	United States
Slices, choice, heavy syrup	2½	4.61	4.34	4.24	United States
Half slices, standard	2½	3.88	3.81	3.65	Philippines
Broken slices	10	12.60	12.86	12.00	South Africa
Chunks, heavy syrup	2½	3.94	3.91	3.71	United States
Pieces	30 oz.	3.15	—	3.15	Taiwan
CANNED JUICES					
Orange, unsweetened	[1] 1 qt.	4.94	5.37	4.34	United States
Pineapple, unsweetened	6 oz.	—	.99	.93	United States

[1] Packed in glass bottles.

Denmark's Taxes on Nuts Revised

The Danish Rawstuff Tax has been revised making the following changes effective as of February 1, 1969:

A. The tax has been abolished on:
   Brazil nuts, in-shell
   Coconuts, in-shell
   Pecan nuts, in-shell
   Walnuts, in-shell

B. The rawstuff tax is maintained, but at reduced rates and based on kilo weight instead of the c.i.f. value, on the following (for comparison earlier status also given):

DANISH RAWSTUFF TAX

Item	Weight tax (up to January 31, 1969)	New tax (from February 1, 1969)
	Cents per lb.	*Cents per lb.*
Almonds, in-shell	70% of cif value + 12.1	27.2
Almonds, shelled	70% of cif value + 24.2	54.4
Apricot kernels	70% of cif value + 24.2	54.4
Brazil nuts, shelled	70% of cif value + 24.2	36.3
Walnuts, shelled	70% of cif value + 24.2	36.3
Pecan nuts, shelled	70% of cif value + 24.2	36.3
Filberts, shelled	70% of cif value + 24.2	36.3
Filberts, in-shell	70% of cif value + 12.1	18.1
Peanuts, shelled	70% of cif value + 24.2	10.9
Peanuts, salted or otherwise prepared	70% of cif value + 24.2	21.8

Hamburg Prices of Canned Fruits, Juices

Quotations represent importers selling prices including duty and sugar-added levy [1] but excluding value-added tax. Sales are in lots of 50 to 100 cases.

Type and quality	Size of can	Price per dozen units Jan. 1968	Oct. 1968	Jan. 1969	Origin
CANNED FRUIT		*U.S. dol.*	*U.S. dol.*	*U.S. dol.*	
Apricots, halves:					
Choice	2½	3.12	2.88	2.82	Spain
Light syrup	2½	—	3.18	3.18	South Africa
Not specified	2½	3.18	2.88	2.82	Greece
Do	2½	3.15	2.67	2.58	Bulgaria
Peaches, halves:					
Choice, light syrup	2½	3.54	3.57	3.45	South Africa
Standard, light syrup	2½	—	3.69	3.66	United States
Do	2½	—	3.48	3.39	Australia
Light syrup	2½	—	3.57	3.45	Argentina
Do	2½	—	3.33	3.27	Spain
Not specified	2½	3.39	2.88	2.88	Greece
Pears:					
Heavy syrup	2½	4.23	3.96	3.66	Italy
Fruit cocktail:					
Heavy syrup	2½	5.64	5.70	5.55	United States
Standard, light syrup	10	—	18.15	16.35	Australia
Pineapple:					
Whole slices:					
Fancy	2½	4.92	5.25	5.25	United States
Choice	2½	—	3.80	3.70	United States
Do	2½	3.74	3.74	3.84	Philippines
Not specified	2½	3.33	3.27	3.21	Ivory Coast
Pieces and halves:					
Choice	2½	—	3.03	2.85	South Africa
Not specified	2½	2.72	2.85	3.18	Taiwan
Do	2½	—	2.49	2.85	Thailand
Do	2½	—	2.64	2.70	China
Crushed:					
Fancy	10	13.71	14.10	14.10	United States
Do	10	11.52	11.70	11.70	Philippines
Not specified	2½	—	2.67	2.67	China
CANNED JUICES					
Grapefruit, unsweetened	2	—	2.01	1.71	United States
Do	2	1.58	1.89	1.86	Israel
Do	43 oz.	3.48	4.20	3.84	Israel
Do	2	—	1.89	1.56	China
Orange, unsweetened	[2] 1 qt.	4.08	4.10	3.78	United States
Do	[2] 1 qt.	—	—	3.81	Israel
Do	43 oz.	—	2.88	3.09	Italy
Do	43 oz.	3.51	3.39	3.27	Greece

[1] The sugar-added levy which became effective July 1, 1968, is explained in Foreign Agricultural Circular "EEC Sugar-added Regulation for Processed Fruits and Vegetables, FCAN 2-68."

[2] Packed in glass bottles.

Syria Produces Larger Cotton Crop

The 1968-69 cotton crop in Syria is estimated at 700,000 bales (480 lb. net), one-fifth larger than last year's outturn of 580,000 bales. The production increase primarily reflects a higher yield per acre. The improved yield is attributed to both favorable weather conditions and the increased use of a newly introduced Coker Carolina Queen variety. Yields were low in 1967-68 because of extensive flooding during the early growing season.

The Cotton Bureau recently reported that only between 2 and 3 percent of this season's crop remained in the fields at the end of December but that the volume of arrivals at gins had been reduced owing to heavy rains which impeded road transport in the rural areas.

Syria is a major exporter of cotton and in the 1967-68 season ranked ninth in importance as a cotton exporter among the cotton exporting countries. Cotton exports are a major source of much of Syria's foreign exchange, and in most of the recent years exports have amounted to nearly 90 percent of the country's production. Syria's cotton exports totaled 491,000 bales in 1967-68, 15 percent below the 577,000 bales in 1966-67. Exports to major destinations during the 1967-68 year with quantities supplied (1966-67 figures in parentheses) were: Japan 134,000 bales (37,000); USSR 84,000 (94,000); Communist China 55,000 (90,000); France 39,000 (67,000); West Germany 34,000 (41,000); and Romania 28,000 (63,000). During the past 5 years, approximately 60 percent of Syria's cotton exports have gone to the Soviet Bloc countries of Eastern Europe and to Communist China.

Consumption of raw cotton by the Syrian textile industry during the current year is placed at 100,000 bales, the same as in 1967-68.

Chad's Cotton Exports Higher in 1967-68

Chad's exports of raw cotton in 1967-68 (August-July) totaled 187,000 bales (480 lb. net), up from 161,000 a year earlier. The 1967-68 level compares with the record-high of 191,000 bales in 1965-66 and the 1960-64 average of 134,000 bales. France purchased two-thirds of Chad's cotton exports in 1967-68, about the same proportion as in other recent years. Belgium, Japan, and Yugoslavia bought much smaller amounts in 1967-68. Cotton is an important part of Chad's economy and represents about 60 to 80 percent of the total value of exports.

Cotton production is estimated at 200,000 bales in 1968-69, up sharply from the drought-reduced crop of 175,000 a year earlier. During recent years, around 750,000 acres have been devoted to cotton in Chad. Average yield was 128 pounds of lint per acre in 1968-69, up from the 1960-64 average of 100 pounds, primarily as a result of promotion by the government. Promotion efforts included use of improved varieties, fertilizer, insecticides, and modern planting techniques. It is reported that yields in the 1967-68 government project areas averaged about five times greater than those areas farmed with conventional methods. Most of the crop is nonirrigated and total output depends almost entirely on weather conditions.

Cotton production in Chad has been subsidized for many years. Prior to 1963, France provided the subsidy but since then the EEC has financed the subsidy program. The EEC-financed subsidy will be terminated by 1970.

Domestic cotton consumption has always been relatively

small. In 1967, however, a textile mill, known as the Chadian Textile Society, was established in Fort Archambault and should consume about 4,000 bales of raw cotton each year. Offtake is expected to increase further by 1972.

Philippine Coconut Products Exports Dip

Registered exports of copra from the Philippine Republic in 1968 totaled 653,675 long tons, compared with 753,724 in 1967. Of the total, 294,343 tons moved to the United States, an increase of 36,864 from last year.

Exports of coconut oil in December 1968 were 36,849 tons, up 14,527 from the 22,322 tons exported a year earlier. Shipments to the United States were 28,188 tons against 19,827 in 1967.

Cumulative Philippine exports of copra and coconut oil on an oil-equivalent basis in 1968 totaled 683,873 tons—4 percent below the 712,095 exported in 1967.

Desiccated coconut exports in December 1968 were 6,611 short tons. Exports for the full year totaled 81,511 tons, 15,478 above those in 1967. Of the total, 70,496 tons moved to the United States, compared with 50,682 in 1967.

PHILIPPINE REGISTERED EXPORTS OF COPRA, COCONUT OIL, AND DESICCATED COCONUT

Commodity and destination	December		January-December	
	1967	1968 [1]	1967	1968 [1]
	Long tons	*Long tons*	*Long tons*	*Long tons*
Copra:				
United States	15,900	24,600	257,479	294,343
Europe	32,900	43,414	390,407	298,264
South America	3,500	0	33,000	5,600
Japan	500	2,000	71,851	54,668
Other Asia	0	0	987	800
Total	52,800	70,014	753,724	653,675
Coconut oil:				
United States	19,827	28,188	203,906	225,358
Europe	2,495	8,661	25,463	40,163
Japan	0	0	343	0
Total	22,322	36,849	229,712	265,521
Desiccated coconut:	*Short tons*	*Short tons*	*Short tons*	*Short tons*
United States	3,628	4,864	50,682	70,946
Canada	73	183	4,123	2,209
Denmark	14	12	255	289
France	0	251	236	529
Germany, West	50	255	764	1,184
Netherlands	37	443	1,546	1,413
Sweden	64	161	758	715
Japan	276	56	2,850	1,936
Australia	118	117	2,957	979
Others	136	269	1,862	1,311
Total	4,396	6,611	66,033	81,511

[1] Preliminary.
Associated Steamship Lines, Inc., Manila.

Brazil Expects Record Soybean Harvest

Brazil is expected to harvest a record soybean crop in 1969 (March-June). On the basis of trade reports, production is forecast at about 33 million bushels compared with 23 million in 1968 and the 1963-67 average of 18 million.

Increased plantings have been observed in all major soybean producing States, and growing conditions have been generally satisfactory, particularly in Rio Grande do Sul and Paraná, States ranking first and second, respectively, in production. Plantings in Sao Paulo were almost double those of a year earlier, but unusually dry conditions during November and December—normally the rainy season—probably will reduce yields.

Should the 1969 crop reach expectations, Brazil may export about 11 million bushels, or roughly the same volume as in 1967. Exports in 1968 declined to only 2.4 million bushels according to preliminary data. Exports of soybean meal in 1968, however, are estimated at about 225,000 metric tons, compared with 125,359 in 1967.

Dairy Surplus Threatens U.K. Cheese Sale

The growing world dairy surplus, which forced the United States to place strict controls on imports of abnormally low-priced dairy products, now threatens the market for cheese in the United Kingdom. Imports of cheese into the United Kingdom increased 21 percent in the first 11 months of 1968, and cheese stocks jumped 64 percent from a year earlier to 165 million pounds (more than 3 months' supply) on November 30.

On December 16, 1968, the U.K. National Farmer's Union and the Milk Marketing Boards requested the British Government to place antidumping or countervailing duties on certain imports of Cheddar and Cheddar-type cheeses. These organizations claimed that the government's efforts to secure voluntary limitations on cheese shipments had failed. (See *Foreign Agriculture*, Dec. 9, 1968.)

On January 22, 1969, the British Government announced that it had accepted the contention that cheese and cheese products are being dumped on the British market and that they are causing material injury to U.K. producers. The charge was directed primarily at the Governments of Australia, Canada, France, the Irish Republic, and the Netherlands.

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Wrap-Up of U.S. Tobacco Trade in 1968—

Tobacco Exports Approach Record

U.S. exports of unmanufactured tobacco in 1968 reached the highest level since 1946. Even with the U.S. dock strike that began December 20, 1968, the cumulative 12-month export total reached 598.9 million pounds, an increase of about 4.8 percent over the 1967 shipments. The record for U.S. exports was 663 million pounds in 1946, just following the cessation of World War II.

The declared value for U.S. unmanufactured tobacco exports for 1968 reached $524.3 million or an increase of approximately 5.2 percent over 1967.

December exports totaled 63.6 million pounds compared to 68.8 million in the same month of 1967. The declared value of exports in December 1968 of $57.8 million was about 3 percent short of the $59.8 million shipped in December 1967.

Flue-cured leaf exports, the major U.S. kind, increased about 3.8 percent over the previous year. Exports of burley leaf, the second major U.S. kind, dropped about 5.5 percent.

The principal factors improving U.S. exports during the past year included: (1) better quality of U.S. tobacco production in recent years, (2) increased world cigarette consumption, (3) continued sanctions against Rhodesian trade among most foreign tobacco importing areas, (4) the export payment of 5 cents per pound, unstemmed leaf equivalent, on U.S. leaf exports, and (5) some larger shipments in recent months in anticipation of the U.S. dock strike.

The outlook for U.S. exports in the next few months is darkened by the dock strike that showed no indication of settlement at this date. An end to the strike in a few days would make fiscal year exports ending June 30, 1969, only slightly lower than the 565 million pounds shipped in fiscal year 1968.

U.S. EXPORTS OF UNMANUFACTURED TOBACCO
[Export weight]

Kind	December		January-December		Change from 1967
	1967	1968	1967	1968	
	1,000 pounds	*1,000 pounds*	*1,000 pounds*	*1,000 pounds*	*Percent*
Flue-cured	53,020	50,704	427,435	443,791	+ 3.8
Burley	3,916	2,661	45,266	42,780	− 5.5
Dark-fired Ky.-Tenn.	2,035	1,361	21,659	20,529	− 5.2
Va. Fire-cured [1]	664	343	4,614	5,002	+ 8.4
Maryland	740	136	15,073	13,786	− 8.5
Green River	0	15	858	518	−39.6
One Sucker	0	0	1,028	1,042	+ 1.4
Black Fat	562	183	4,109	2,548	−38.0
Cigar wrapper	227	236	3,742	4,441	+18.7
Cigar binder	36	26	1,790	2,152	+20.2
Cigar filler	254	18	914	607	−33.6
Other	7,368	7,960	45,071	61,720	+36.9
Total	68,822	63,643	571,559	598,916	+ 4.8
	Mil. dol.	*Mil. dol.*	*Mil. dol.*	*Mil. dol.*	*Percent*
Declared value	59.8	57.8	498.3	524.3	+ 5.2

[1] Includes sun-cured.
Bureau of the Census.

The volume of U.S. tobacco products exports continued to improve in December. The December export value of products was $16.5 million compared to $12.4 million in December of 1967. For 1968 the value of tobacco products exports reached about $162 million, 18.2 percent higher than in 1967. Cigarettes and smoking tobacco exports increased substantially in the year, but cigar, chewing tobacco, and snuff products were down about 12 and 34 percent, respectively, from 1967.

U.S. EXPORTS OF TOBACCO PRODUCTS

Kind	December		January-December		Change from 1967
	1967	1968	1967	1968	
Cigars and cheroots *1,000 pieces*	3,700	2,590	76,241	66,837	*Percent* −12.3
Cigarettes *Million pieces*	2,049	2,589	23,651	26,510	+12.1
Chewing and snuff *1,000 pounds*	58	0	318	209	−34.3
Smoking tobacco in packages *1,000 pounds*	109	441	1,323	2,012	+52.1
Smoking tobacco in bulk *1,000 pounds*	1,652	2,779	15,945	21,427	+34.4
Total declared value *Million dollars*	124	165	1,369	1,618	+18.2

Bureau of the Census.

Flue-Cured Exports Up Slightly

U.S. exports of flue-cured tobacco in 1968 were 443.8 million pounds (export weight), 3.8 percent above the 1966 level, which was the highest of recent years.

As in the previous year, the United Kingdom, West Germany, Japan, the Netherlands, and Thailand were the major markets. These five countries took nearly two-thirds of the total flue-cured exports in 1968.

The European Common Market countries purchased a total of 125.7 million pounds of flue-cured in 1968, slightly less than the 137.5 million imported in 1967.

U.S. EXPORTS OF FLUE-CURED TOBACCO
[Export weight]

Destination	Average 1960-64	1966	1967 [1]	1968 [1]
	1,000 pounds	*1,000 pounds*	*1,000 pounds*	*1,000 pounds*
United Kingdom	129,775	107,361	111,410	112,194
Germany, West	65,300	80,480	94,784	73,521
Japan	25,970	42,016	26,259	41,925
Netherlands	21,238	18,736	24,044	30,011
Thailand	8,486	14,372	19,458	24,120
Australia	16,323	13,632	10,662	16,539
Belgium-Luxembourg	13,453	12,891	12,545	15,278
Ireland	14,402	11,655	11,991	13,110
Denmark	10,402	11,453	10,908	12,898
Switzerland	3,546	6,809	9,013	9,720
Vietnam, South	4,962	10,559	11,373	8,709
Taiwan	2,653	5,709	6,857	6,333
Sweden	9,134	14,955	9,597	6,205
Malaysia	3,724	5,056	6,499	6,108
Norway	4,799	5,917	5,230	5,849
Philippines	1,276	3,160	3,793	5,648
New Zealand	4,262	5,033	3,657	5,209
Finland	5,559	3,374	3,752	3,983
Spain	996	3,066	2,788	3,922
Hong Kong	5,504	3,824	4,687	3,830
Other	45,417	42,566	38,128	37,679
Total	397,181	422,624	427,435	443,791

Average export price per pound for flue-cured in 1968 was 96.1 cents, compared to 94.3 cents in 1967 and 92.3 cents in 1966. The price rise results mostly from an increase in the proportion of shipments made in stemmed form which have a higher value than the same quantity in unstemmed form.

Burley Exports Dip 5 Percent

U.S. exports of burley tobacco in 1968 were 42.8 million pounds (export weight), down about 5 percent from the 45.3 million pounds in 1967 but remaining about 3 percent above the 1960-64 average. However, the export value was up in 1968 to $40.9 million compared to $39.1 million in 1967. Thus, average price per pound for total exports in 1968 was 95.5 cents compared to 86.4 cents in 1966. About one-third of all burley shipments in 1968 were made in stemmed form which is higher in value than the unstemmed form. In 1967 only 21 percent of shipments were made in stemmed form.

The major markets for U.S. burley in 1968 included West Germany, 8.3 million pounds; Sweden, 4.9 million; Thailand, 4.7 million; and Denmark, 3.2 million.

The European Common Market countries purchased 15.2 million pounds of burley in 1968, down from the 19.5 million purchased in 1967.

U.S. EXPORTS OF BURLEY TOBACCO
[Export weight]

Destination	Average 1960-64	1966	1967 [1]	1968 [1]
	1,000 pounds	*1,000 pounds*	*1,000 pounds*	*1,000 pounds*
Germany, West	9,662	11,795	11,023	8,311
Sweden	4,483	4,806	3,411	4,926
Thailand	685	3,374	3,711	4,739
Denmark	1,379	2,325	2,551	3,164
Switzerland	703	2,235	2,157	2,908
Netherlands	2,129	1,106	3,299	2,647
Philippines	511	1,324	1,105	2,211
Italy	4,027	968	3,221	1,890
Belgium-Luxembourg	904	1,784	1,456	1,740
Hong Kong	918	843	1,200	1,557
Portugal	2,816	1,045	3,303	1,544
Finland	1,530	1,320	1,238	1,158
Australia	601	1,628	769	964
Norway	774	701	1,068	875
Austria	645	435	589	797
France	546	580	523	620
Chile	524	1,136	1,565	551
Israel	15	86	209	272
Trinidad	274	275	202	263
Congo (Kinshasa)	339	14	957	189
Other	8,089	7,925	1,709	1,448
Total	41,554	45,705	45,266	42,780

[1] Preliminary.
Bureau of the Census.

Maryland Leaf Exports Decline

Following a sharp rise in exports of Maryland tobacco in 1967, the 1968 shipments were down slightly. Exports in 1968 totaled 13.8 million pounds compared to 15.1 million in 1967.

The major market for Maryland leaf is Switzerland, whose purchases of 9.4 million pounds in 1968 represented 68 percent of total Maryland exports. Other major markets include West Germany, Portugal, and Belgium-Luxembourg. Two of these markets took less in 1968 than in 1967.

U.S. EXPORTS OF MARYLAND TOBACCO

Destination	Average 1960-64	1966	1967	1968 [1]
	1,000 pounds	*1,000 pounds*	*1,000 pounds*	*1,000 pounds*
Switzerland	6,595	6,028	8,762	9,355
Germany, West	575	1,239	2,866	1,511
Portugal	1,138	684	887	1,095
Belgium-Luxembourg	1,004	688	1,585	843
Spain	155	975	276	386
Netherlands	922	240	98	120
Denmark	16	34	20	96
Chile	0	0	0	78
Norway	51	63	56	77
Congo (Kinshasa)	0	0	0	38
Other	908	661	523	187
Total	11,364	10,612	15,073	13,786

[1] Preliminary. Bureau of the Census

General Imports of Leaf Steady

Arrivals of unmanufactured tobacco leaf in 1968 were about equal in volume to the quantity imported in 1967. A total of 262.6 million pounds, mostly oriental cigarette leaf from Turkey and Greece, arrived in 1968; 264 million came in 1967.

Volume of imports for the month of December was nearly the same as in December 1967 but value was off slightly.

Cigarette leaf (other than flue-cured and burley) was down about 16 percent for the year. On the other hand, cigar filler and scrap leaf arrivals showed significant gain. Scrap went to 41 million pounds in 1968 compared to 26 million in 1967.

Current stocks of foreign-grown cigarette and smoking tobacco (Turkish and other) held by manufacturers and dealers in the United States as of October 1, 1968, were at record high levels for October stocks. A total of 402.5 million pounds held on October 1, 1968, represented an 8-percent increase over the same period of 1967 and over 50 percent more than the 1960-64 average.

U.S. GENERAL IMPORTS OF UNMANUFACTURED TOBACCO

Item	1967		1968	
	Quantity	Value	Quantity	Value
January-December:	*1,000 pounds*	*1,000 dollars*	*1,000 pounds*	*1,000 dollars*
Cigarette leaf (flue & burley)	1,905	640	7,879	2,320
Cigarette leaf, other	212,104	143,901	178,909	119,558
Cigar wrapper	304	1,452	473	2,024
Mixer filler & wrapper	493	1,153	474	2,055
Cigar filler, unstemmed	20,203	7,145	30,556	9,923
Cigar filler, stemmed	2,235	2,521	2,691	3,355
Scrap	26,306	4,935	40,752	9,191
Stems	408	21	898	42
Total	263,958	161,768	262,632	148,468
December:				
Cigarette leaf (flue & burley)	1,212	424	21	7
Cigarette leaf, other	30,239	20,923	28,954	19,122
Cigar wrapper	8	41	33	206
Mixed filler & wrapper	21	76	68	257
Cigar filler, unstemmed	2,285	744	1,448	711
Cigar filler, stemmed	229	257	109	137
Scrap	2,908	699	5,627	1,483
Stems	50	3	352	5
Total	36,952	23,167	36,612	21,928

Bureau of the Census.

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Iran Hoping To Achieve Sugar Independence

Cultivation of both sugarbeets and sugarcane is taking precedence in Iran these days, and the country hopes to reach self-sufficiency in this product by the early 1970's. Such a development would, of course, halt sugar imports and the product's drain on foreign currency.

At present, beets are the keystone of the sugar industry, representing 92 percent of production, against 8 percent for sugarcane. However, cane production is moving ahead rapidly and is expected to account for 17 percent of sugar output by the end of the present 5-year plan in March 1973.

Beet industry makes gains

This is not to say that the beet industry is static. As a matter of fact, production of beets nearly doubled between 1964 and 1966, from 1,150,000 metric tons to 2,272,000, and acreage climbed from 158,000 acres to 247,000. Moreover, beet production will move further ahead in the current year, to an estimated 3,300,000 tons from an acreage slightly more than double that of 1964. This phenomenal growth did not just occur. It has been encouraged by the government and also by the cooperatives and other private organizations.

Most of the large increases in sugarbeet production have occurred in the Province of Khorrasan—area of a devastating earthquake last year. Beets in this Province are primarily irrigated, and many deep wells have been drilled in the last 3 years to accommodate the larger acreage. While the beneficial effects of these wells are obvious, concern has risen over their large number, especially since the water table is falling at a rapid rate. Nonetheless, sugarbeet production is still booming in the Province of Khorrasan.

Iran's cane production is isolated on a single plantation located in Haft Tappeh in the Province of Khuzestan. It is operated by the Khuzestan Water and Power Authority with the technical assistance of the Hawaiian Agronomics Company (International).

The plantation's first cane was cut in 1961. Acreage was then 5,717 acres, yield of cane was 31.3 tons per acre, and total raw sugar output was 12,172 tons for a sugar yield of 2.13 tons per acre. In the following 6 years, acreage and yields grew steadily, so that by 1967-68 area harvested had risen 80 percent over the starting year's, and raw sugar yield had climbed 93 percent. Moreover, plans are now underway to expand acreage to a total of 24,710 acres—an acreage that should be in production by 1972.

Bagasse produced as a byproduct of the sugar extraction is presently being used to fuel the boilers in the refining operation. But in coming years, it will be utilized in a papermill, on which plans have now been finalized and construction is about to begin. Fuel for the mill will come from either gas or oil, which is plentiful from nearby gas and oil fields.

Adequate crushing capacity

While beet and cane production must come up with more gains to meet the country's growing needs, the milling industry at present is ready to handle any increased input. The beet industry boasts 28 beet sugarmills, 15 of which are state owned and 13 privately owned. Their consumption capacity is about 40,000 tons of beets per day, and the normal working period is 110 days per year. This gives the mills a beet consumption level of about 4.4 million tons, which is well above current beet production.

These crushing plants supposedly have the capacity to produce the sugar needed by Iran, provided that beet production increases according to the 5-year plan's timetable. The country has therefore decided not to build any new sugarmills during the plan period.

Sugar consumption in Iran is currently about 595,000 tons, and it will rise to an estimated 700,000 by 1973 if the 5-percent yearly gain in consumption continues. The beet crushing mills can produce about 600,000 tons per year if they run at capacity for 110 days per year, and production from the expanded cane acreage is expected to give the 100,000 additional tons of sugar needed for Iran to achieve self-sufficiency. Thus, the Iranian Government is planning on eliminating sugar imports by the end of 1973.

—JOHN E. RIESZ
Assistant U.S. Agricultural Attaché, Tehran

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